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PATENT
03142-P0060A WWW/SBS

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants	Robert Alan Hoult, <i>et al.</i>
Application No. 09/942,131	Filing Date: August 29, 2001
Title of Application:	Small Detector Array For Infrared Imaging Microscope
Confirmation No. 6577	Art Unit: 2884

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


Reply Brief Under 37 CFR §41.41

Dear Sir:

Having received the Examiner's Answer, Appellant submits this Reply Brief for the above-captioned application pursuant to 37 C.F.R. §41.41 as follows.

Mailing Certificate: I hereby certify that this correspondence is today being deposited with the U.S. Postal Service as *First Class Mail* in an envelope addressed to: Mail Stop Appeal Brief – Patents; Commissioner for Patents and Trademarks; Post Office Box 1450; Alexandria, VA 22313-1450.

October 11, 2006


Ellise J. Kuban

Response to Argument

Most of the arguments presented in the Examiner's Answer were presented during prosecution, and thus, have already been dealt with in Appellant's Appeal Brief. Appellant submits this Reply to briefly elaborate on issues raised in the Examiner's Answer.

U.S. Patent No. US 6,274,871 ("Dukor")

The Examiner has stated that "Dukor discloses a 64 x 64 array as merely an example of the number of elements" but that "the object to be imaged dictates the selection of the number of detector elements" and that the "motivation to reduce the number of elements is to reduce the amount of processing required to produce an image." (Examiner's Answer, p. 12.) First, however, Appellant notes that Dukor is principally concerned with the application of a commonly known microscope in examining biological samples, not the development of an IR microscope. (See e.g., Col. 1, Ins. 6-8 "This invention relates generally to the examination of biological samples for identifying cellular types or the presence of cellular anomalies.") While the Examiner has stated that, the number of detectors is selected based on the object to be imaged, the Examiner fails to cite any location whatsoever, where this concept is taught in Dukor or any of the cited prior art for that matter. Rather, the Examiner simply states that "[i]t is well known to adjust the number of detector elements based upon the desired resolution/object size." (Examiner's Answer, p. 12.)

In response to this unsupported assertion, Appellant submits that, once focal plane arrays became available, the general trend in the present field has been to move toward the use of available packaged arrays, typically one such as described in Dukor with 4096 elements. In support thereof, Appellant notes that all of the cited prior art supports the fact that relatively large arrays are used, as this was thought to be the way to obtain faster images. None of the cited prior art supports the Examiner's assertion. Appellant further notes that, the aspects of the invention described in the pending

claims took the apparently regressive step of utilizing a relatively small number of detectors in an array, (e.g. 16) when viewed against the backdrop of the prior art. However, it was determined that this novel configuration could, in part, be used to achieve equal and arguably better performance.

Therefore, because Dukor fails to teach, disclose or suggest an array of detectors comprises from approximately 3 to 100 individual detector elements as recited in claims 1, 25, 40 and 44, Dukor can not render these claims obvious.

U.S. Patent No. 6,396,048 ("Schanz")

The Examiner states with regard to Schanz that "the output of the detector elements . . . are fed in parallel as each element is read out individually to processing means . . . for processing the detector element outputs. The purpose in citing Schanz was to demonstrate the specifics of parallel processing for imaging systems." (Examiner's Answer, p. 13.) However, Appellant notes that the Examiner has failed to cite any location in Schanz where parallel processing is actually discussed. Rather, the Examiner has cited one detection element and one detection circuit. (See, FIG 2.) Appellant notes that Schanz does teach that "the present invention is also applicable to a one-dimensional or two-dimensional array of such image sensor elements." (Col. 6, Ins. 42-44; See also, Col. 1, Ins. 16-18.) However, Schanz does not teach parallel processing of the sensor element outputs as suggested by the Examiner. In fact, Schanz teaches exactly the opposite. For example, in commenting on the one and two dimensional arrays, Schanz goes on to state that "a one-dimensional or two-dimensional array of such image sensor elements, where, as is known, selection switches may be provided for accessing the individual image sensor elements." (Col. 6, Ins. 44-46; See also, "switch 52" FIG. 2; Col. 5, Ins. 6-9.) Therefore, Schanz does not suggest providing detection circuitry for each sensor element as suggested by the Examiner, rather, Schanz teaches that where multiple detector elements are used, the selection switches may be used to selectively connect the individual sensor to the detection circuit. In other words, a se-

quential detection of the detector elements occurs by the processing circuit. Nowhere does Schanz teach, disclose or suggest that each detector element has its own associated detection circuitry as required by the claims.

Applicant further notes that Dukor also fails to teach, disclose or suggest parallel processing of the detection element outputs. Rather, Dukor refers only to the pixels detecting in parallel, not to parallel processing of the detector elements. (Col. 1, Ins. 31-44.)

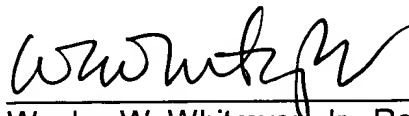
Accordingly, because neither Dukor nor Schanz teach, disclose or suggest that each detector element has its own associated detection circuitry as recited in claims 1, 25 and 40, no combination thereof can render these claims obvious.

Conclusion

For the foregoing reasons, Appellant respectfully submits that the claimed invention embodied in each of claims 1, 3-13 and 25-44 is patentable over the cited prior art. As such, Applicant respectfully requests that the rejections of each of claims 1, 3-13 and 25-44 be reversed and the Examiner be directed to issue a Notice of Allowance allowing each of claims 1, 3-13 and 25-44.

Respectfully submitted,

October 11, 2006



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